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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/713,521      | 11/14/2003  | Yukihito Furuhashi   | 17244               | 9948             |

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EXAMINER

LEROUX, ETIENNE PIERRE

ART UNIT PAPER NUMBER

2161

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/713,521 | <b>Applicant(s)</b><br>FURUHASHI ET AL. |  |
|                              | <b>Examiner</b><br>Etienne P. LeRoux | <b>Art Unit</b><br>2161                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 5 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

### *Claim Status*

Claims 1-13 are pending, claims 1-13 are rejected as detailed below.

### *Claim Objection*

Claims 5 and 10 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 is drawn to a two-dimensional feature values. Claim 5 does not further limit claim 1 because Claim 5 is drawn to three-dimensional feature values which are basically different from two-dimensional feature values.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected is rejected under 35 U.S.C. 101 because the claimed recitation of a use, i.e., “a similarity search step of **using** (emphasis added) the feature values extracted in the first and second feature value extraction steps to carry out similarity search,” without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

*Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites “a first feature value extraction step of extracting the respective feature values of the two-dimensional images from the plurality of two-dimensional images produced in the search object image production step.” The specification does not contain a clear and concise description of the first feature values extraction step such that a skilled artisan can make and use the invention.

Claim 1 recites “a second feature value extraction step of extracting the feature value from the two-dimensional image as a search key inputted in the search key input step.” The specification does not contain a clear and concise description of the second feature value extraction step such that a skilled artisan can make and use the invention.

Claims 2-5 are rejected for being dependent at least from a rejected base claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “a first feature value extraction step of extracting the respective feature values of the two-dimensional images from the plurality of two-dimensional images produced in the search object image production step” and furthermore, claim 1 recites “a second feature value extraction step of extracting the feature value from the two-dimensional image as a search key inputted in the search key input step.” The metes and bounds of the claimed invention cannot be determined because it is unclear how many feature value(s) applicant is claiming. For purposes of this Office action, examiner will assume that there is only one feature value.

Claim 1 recites “a second feature value extraction step of extracting the feature value from the two-dimensional image as the search key inputted in the search key input step” and furthermore, claim 1 recites “a similarity search step of using the feature values extracted in the first and second value extraction steps to carry out similarity search.” The metes and bounds of the claimed invention cannot be determined because it is unclear why the value(s) extracted in the second feature value extraction step must be inputted **twice** (emphasis added).

Claim 1 recites “a second feature value extraction step of extracting the feature value from the two-dimensional image as the search key inputted in the search key input step” and furthermore, claim 1 recites “a similarity search step of using the feature values extracted in the

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first and second feature value extraction steps to carry out similarity search.” The metes and bounds of the claimed invention cannot be determined because it is unclear whether the first feature value or the first feature value and the second feature value is/are used as the search key.

Claim 1 provides for the use of the first feature value and the second feature value as the search key, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 2-5 are rejected, at least for being dependent from a rejected base claim.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-9 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Pub No 2001/0020946 issued to Kawakami et al (hereafter Kawakami), as best examiner is able to ascertain.

#### Claims 1, 6 and 11-13:

a search object image production step of producing a plurality of two-dimensional images obtained by observing the three-dimensional model as an object of search from points of view different from one another [Kawakami, camera, paragraph 41, Fig 1, 18]

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a first feature value extraction step of extracting the respective feature values of the two-dimensional images from the plurality of two-dimensional images produced in the search object image production step [Kawakami, image is scanned paragraph 41]

a search key input step of inputting a two-dimensional image as a search key [Kawakami, distance vector, paragraph 45]

a second feature value extraction step of extracting the feature value from the two-dimensional image as the search key inputted in the search key input step [Kawakami, distance vector, paragraph 45]

a similarity search step of using the feature values extracted in the first and second feature value extraction steps to carry out similarity search, and outputting a three-dimensional model which is similar to the search key [Kawakami, image recognizing section 50, Fig 1]

Claims 2 and 7:

Kawakami discloses wherein the two-dimensional image produced in the search object image production step is a two-dimensional projection image and/or a sectional image which corresponds to the three-dimensional model [paragraph 12]

Claims 3 and 8:

Kawakami discloses wherein the two-dimensional projection image and/or the sectional image includes texture information [paragraph 14].

Claims 4 and 9:

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Kawakami discloses a storage step of storing the three-dimensional model as the object of the search, the feature value extracted in the first feature value extraction step, and correspondence information indicating correspondence between the three-dimensional model and the feature value extracted in the first feature value extraction step [Fig 1, 51]

Claim 5:

Kawakami discloses a three-dimensional feature value extraction step of extracting a three-dimensional feature value from the three-dimensional model as the object of the search; and a second similarity search step of using the three-dimensional feature value of the three-dimensional model outputted as a search result of the similarity search step as the search key to search the three-dimensional feature value of each three-dimensional model extracted in the three-dimensional feature value extraction step, and outputting a three-dimensional model which has the three-dimensional feature value similar to the search key.

*Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne P. LeRoux whose telephone number is (571) 272-4022. The examiner can normally be reached Monday through Friday between 8:00 am and 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

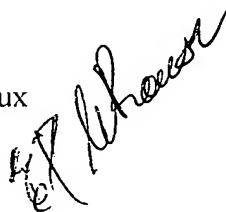


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Etienne LeRoux

4/19/2006

A handwritten signature in black ink, appearing to read 'Etienne LeRoux', is written over the typed name and date.